

GAO

Report to the Subcommittee on Energy
and Water Development, Committee on
Appropriations, House of
Representatives

April 2010

ARMY CORPS OF ENGINEERS

Budget Formulation
Process Emphasizes
Agencywide Priorities,
but Transparency of
Budget Presentation
Could Be Improved



Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE APR 2010		2. REPORT TYPE		3. DATES COVERED 00-00-2010 to 00-00-2010	
4. TITLE AND SUBTITLE Army Corps of Engineers: Budget Formulation Process Emphasizes Agencywide Priorities, but Transparency of Budget Presentation Could be Improved				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Government Accountability Office, 441 G Street NW, Washington, DC, 20548				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 44	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			



Highlights of [GAO-10-453](#), a report to the Subcommittee on Energy and Water Development, Committee on Appropriations, House of Representatives

Why GAO Did This Study

The U.S. Army Corps of Engineers (Corps) is the world's largest public engineering, design, and construction management agency. In fiscal year 2006 it began incorporating performance information into its budget process, but Congress raised concerns that the criteria used by the Corps to prioritize projects are not transparent and the budget formulation process could achieve a higher return on investment. GAO was asked to (1) describe the information the Corps uses in its budget formulation process and the implications of the process, and (2) evaluate whether the President's recent budget requests for the Corps are presented so that agency priorities are clear and proposed use of funds transparent.

GAO reviewed the Corps' internal budget guidance, documentation of its project rankings and budget formulation process, performance review materials, and budget presentation materials. GAO also interviewed Corps and Office of Management and Budget officials.

What GAO Recommends

GAO recommendations include the Corps establishing a documented process for incorporating ongoing performance information into budget formulation decisions and improving the transparency of its budget presentation. The Corps concurred with all but the first recommendation, stating existing mechanisms are sufficient. GAO believes establishing a process would ensure more complete and consistent decision making.

View [GAO-10-453](#) or key components. For more information, contact Denise M. Fantone at (202) 512-6806 or fantoned@gao.gov or Anu K. Mittal at (202) 512-3841 or mittala@gao.gov.

ARMY CORPS OF ENGINEERS

Budget Formulation Process Emphasizes Agencywide Priorities, but Transparency of Budget Presentation Could be Improved

What GAO Found

With the introduction of performance-based budgeting in fiscal year 2006, the Corps began emphasizing projects with the highest anticipated returns on investment. Previously, Corps division officials sought to provide continued funding to all ongoing projects that fit within administration guidelines. Now, under the current process, Corps headquarters plays an increased role in selecting projects, and evaluates projects using certain performance metrics. The Corps gives priority to those projects with the highest anticipated returns for the economy and the environment, as well as those that reduce risk to human life. The Corps' use of performance metrics makes projects in certain geographic areas more likely to be included in the budget request. For example, the benefit-cost ratio, a measure of economic benefit that is used to rank certain projects, tends to favor areas with high property values. Another effect of the Corps' use of performance-based budgeting is that fewer construction and investigation projects—studies to determine whether the Corps should initiate construction projects—have been included in the budget request in recent years. In contrast, the number of projects in the Operation and Maintenance account has been relatively stable, which Corps officials attributed partially to its emphasis on routine activities. While the metrics used by the Corps in its budget formulation process focus on anticipated benefits, the Corps monitors the progress of ongoing projects through review boards at the headquarters, division, and district levels. However, the Corps does not have written guidance establishing a process for incorporating information on demonstrated performance, such as review board findings, into budget formulation decisions. In the absence of such a process, the Corps may miss opportunities to make the best use of this performance information.

The budget presentation for the Corps lacks transparency on key elements of the budget request. It focuses on requested construction and investigations projects, but does not describe how the decisions made during the budget formulation process affected the budget request. For example, the budget presentation does not include an explanation of the relative priority given to project categories or how they are evaluated against each other. Also, while the number of construction and investigations projects receiving appropriations is typically much greater than the number requested, the budget presentation does not include detailed information on all projects with continuing resource needs. The budget presentation also lacks detail on the amount of the balance of unobligated appropriations (carryover) that remain available for each project. Users of the budget presentation told GAO that these two types of project information would be useful.

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Abbreviations

BCR	benefit-cost ratio
Corps	U.S. Army Corps of Engineers
EC	Engineer Circular
OMB	Office of Management and Budget
O&M	Operation and Maintenance
RBRC	remaining benefits-remaining costs

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United States Government Accountability Office
Washington, DC 20548

April 2, 2010

The Honorable Peter J. Visclosky
Chairman
The Honorable Rodney P. Frelinghuysen
Ranking Member
Subcommittee on Energy and Water Development
Committee on Appropriations
House of Representatives

The U.S. Army Corps of Engineers (Corps) is the world's largest public engineering, design, and construction management agency. The Corps provides vital public engineering services in peace and war to strengthen the nation's security, energize the economy, and reduce risks from disasters.¹ In fiscal year 2010 the Corps' civil works program received \$5.4 billion to plan, construct, operate, and maintain a wide range of water resource projects. In fiscal year 2006, the Corps began incorporating performance information in its civil works budget formulation process. The Corps uses performance information both (1) to gauge overall progress in performing its civil works mission and (2) to prioritize and select civil works projects for inclusion in its funding request. Performance information is a broad term that often includes a variety of measures. These measures may be based on the demonstrated performance of a program or project and on estimates of future outcomes. The Corps' performance measures primarily focus on estimates of future outcomes such as providing economic benefits, addressing risk to human life, and restoring ecosystems. Congress has raised concerns that the criteria the Corps uses to prioritize projects are not transparent and the Corps' budget formulation process could achieve a higher return on investment for the nation's water resource projects.

In this context, you asked that we (1) describe the information the Corps uses in its budget formulation process and the implications of the process, and (2) evaluate whether the President's recent budget requests for the

¹ The Corps has both a military and a civil works program. The military program provides, among other things, engineering and construction services to other U.S. government agencies and foreign governments, while the civil works program is responsible for investigating, developing, and maintaining water resource projects. This report only discusses the civil works program.

Corps are presented so that agency priorities are clear and proposed use of funds transparent.

To identify the information used in the Corps' budget formulation process since the Corps began incorporating performance information in fiscal year 2006, we reviewed documentation of its project rankings and budget formulation process, as well as budget presentation materials from fiscal years 2006 through 2010. While we did not evaluate in detail the fiscal year 2011 budget submitted in February of 2010, we did review it to gain a sense of key changes. We also reviewed the Corps' internal budget guidance for fiscal year 2011 and examples of its performance review materials. We interviewed officials at Corps headquarters and all eight U.S. division offices about the budget formulation process and the information developed and used for it, as well as the impacts of the process. To examine the implications of the Corps' budget formulation process, we also analyzed Corps budget and project data from fiscal years 2001 through 2010, the 5 years before and the 5 years after the Corps introduced performance-based budgeting. We reviewed the metrics and measures used to rank Corps projects and how they have changed since fiscal year 2006. We reviewed Corps guidance on calculating the benefit-cost ratio (BCR) of projects and interviewed Corps officials about their use of the BCR and other metrics in formulating the agency's budget and the related effects these metrics have on the budget. We did not evaluate the accuracy of the Corps' calculations for the BCR or other metrics.

To evaluate how the President's budget request for the Corps is presented, we reviewed the President's budgets and appendixes, and budget presentation materials for the Corps, including the budget justifications and Press Books for fiscal years 2006 through 2010. We also reviewed the Corps' Five Year Development Plans for fiscal years 2007 through 2011, 2008 through 2012, and 2009 through 2013. To obtain input from users of the budget presentation, we interviewed staff from relevant congressional committees. We also reviewed appropriations committee reports from fiscal years 2005 through 2010. We interviewed Corps officials and staff at the Office of Management and Budget (OMB) about the reasons for the structure of the budget presentation, the information provided in it, and the feasibility of making specific changes to it. Appendix I contains more detailed information on our scope and methodology.

We conducted this performance audit from March 2009 to March 2010 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and

conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

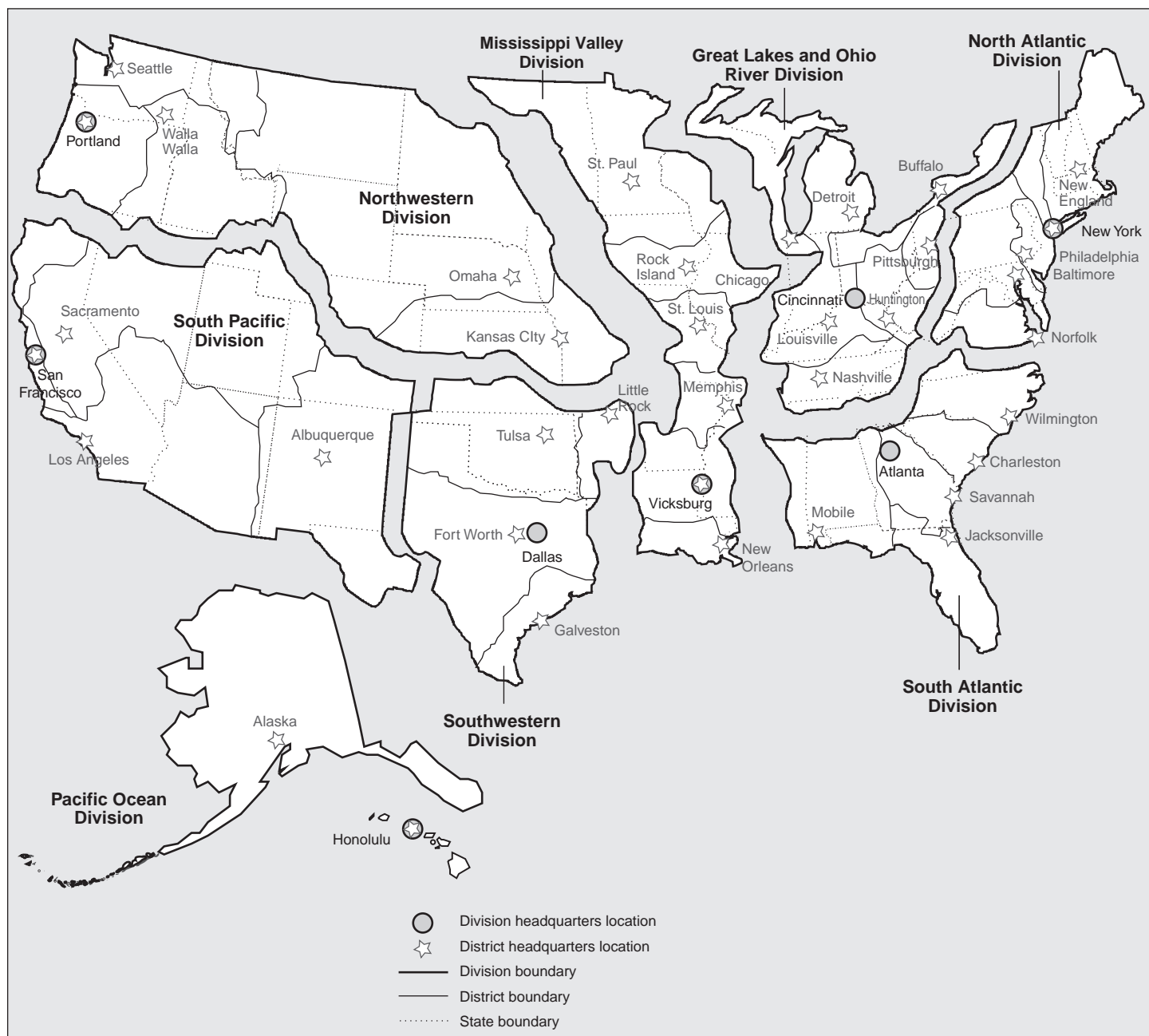
Background

Headquartered in Washington, D.C., the Corps has 8 regional divisions and 38 districts that carry out its domestic civil works responsibilities (see fig. 1). Corps headquarters primarily develops policies, based on administration guidance, and plans the direction of the organization; divisions coordinate the districts' projects; and the districts plan and implement the projects, which are approved by the divisions and headquarters. The Corps' civil works program is classified into nine major functional areas, or business lines: Navigation, Flood Risk Management, Environment, Recreation, Hydropower, Water Supply, Emergency Management, Regulatory Program, and Support for Others.^{2, 3}

² The "Support for Others" business line covers the Corps' activities related to interagency and international support.

³ The Corps has business line managers at the headquarters, division, and some district levels. Business line managers work to integrate resources, budgets, and activities, with a focus on executing the mission of each specific business line.

Figure 1: Locations of the Corps' Civil Works Divisions and Districts



Source: GAO representation of U.S. Army Corps of Engineers data.

Corps headquarters, divisions, and districts are all involved in developing the President's budget request for the Corps. As part of the executive budget formulation process, Corps headquarters staff, with input and data from division and district offices, develop a budget request for the agency. Once the Corps completes its internal review, the Assistant Secretary of the Army for Civil Works approves and submits its budget to OMB for review. OMB recommends to the President whether to support or change the Army's proposals and the decisions made during OMB's budget review process culminate in the President's budget request transmitted to Congress at the beginning of February. Shortly thereafter the Corps provides budget justification materials that support the President's request in more detail to the House and Senate Appropriations committees' subcommittees.

The documents that typically make up the budget presentation for the Corps are the congressional budget justification, the Press Book, and the Five Year Development Plan. The budget justification for the fiscal year 2010 budget request includes details on construction projects and investigations projects—studies to determine whether the Corps should initiate construction projects—included in the budget request, including a narrative description and such details as the total estimated federal cost and amount allocated in prior years. It also provides some information on other Corps accounts such as the Flood Control and Coastal Emergencies account. The information included in the Press Book has varied in recent years, but the Press Book accompanying the fiscal year 2010 budget request consisted primarily of a listing of all construction, investigations, and operation and maintenance (O&M) projects included in the budget request. The listing is organized by state and specifies the amount requested for each project. Finally, the Corps has in the past included a Five Year Development Plan as part of the budget presentation, though it did not for the fiscal year 2010 or 2011 budget requests. The most recent Five Year Development Plan contained descriptions of nine civil works accounts⁴ and summaries of its business line programs, including past accomplishments and future challenges.⁵ It also included project-level

⁴ The nine civil works accounts included in the budget request for the Corps are: Construction, Investigations, O&M, Regulatory Program, Mississippi River and Tributaries, Expenses, Flood Control and Coastal Emergencies, Formerly Utilized Sites Remedial Action Program, and the Assistant Secretary of the Army (Civil Works). During the time period reviewed for this report, the Flood Control and Coastal Emergencies account received funding through supplemental appropriations.

⁵ The most recent Five Year Development Plan issued by the Corps covered fiscal years 2009 through 2013 and accompanied the fiscal year 2009 budget request.

details for the Construction and Investigations accounts with projected funding requirements for the current fiscal year and 4 subsequent fiscal years. It did not include project-level details for the O&M account. In addition to the information contained in the budget presentation, congressional staff members may request additional information as needed for decision making.

The submission of the President's budget request to Congress marks the beginning of the congressional phase of the budget process. The budget request is often a starting point for congressional actions and Congress typically makes changes that reflect its priorities. For example, Congress has historically appropriated more funding to the Corps for a greater number of projects than have been included in the President's budget request.

About 84 percent of the President's fiscal year 2010 budget request for the Corps' civil works program was for three appropriations accounts—Construction, Investigations, and O&M—all of which are focused on specific projects or studies.⁶⁻⁷ The Construction account includes construction and major rehabilitation projects related to navigation, flood control, water supply, hydroelectric power, and environmental restoration. The Investigations account funds studies to determine the necessity, feasibility, and returns to the nation for potential solutions to water resource problems, as well as design, engineering, and other work. The O&M account focuses on preserving, operating, and maintaining river and harbor projects that have already been constructed. Table 1 summarizes the fiscal year 2010 budget request and appropriations for these three accounts.⁸

⁶ The Formerly Utilized Sites Remedial Action Program, another Corps account, is also project-based.

⁷ The remaining 16 percent of the budget request is for the following six accounts: Regulatory Program, Mississippi River and Tributaries, Expenses, Flood Control and Coastal Emergencies, Formerly Utilized Sites Remedial Action Program, and the Office of the Assistant Secretary of the Army (Civil Works).

⁸ Information on the number of projects receiving appropriations in fiscal year 2010 was provided to us by a Corps official.

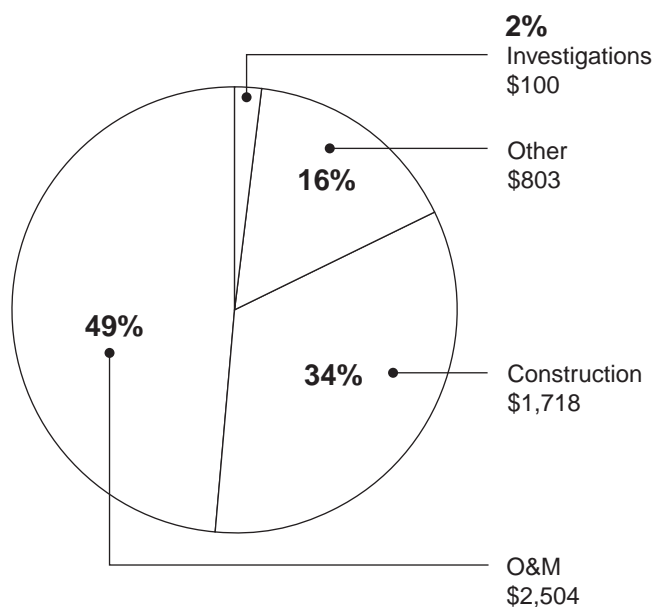
Table 1: Summary of Fiscal Year 2010 Budget Request and Appropriations: Construction, Investigations, and O&M Accounts

	Fiscal year 2010 budget request		Fiscal year 2010 appropriations	
	Amount (dollars in millions)	Number of projects	Amount (dollars in millions)	Number of projects
Construction	\$1,718	93	\$2,031	278
Investigations	\$100	68	\$160	315
O&M	\$2,504	813	\$2,400	826
Total (3 accounts)	\$4,322	974	\$4,591	1,419

Source: GAO analysis of U.S. Army Corps of Engineers data.

A breakdown by account of the fiscal year 2010 budget request is shown in figure 2.

Figure 2: Fiscal Year 2010 Civil Works Budget Request, by Account (Dollars in millions)



The total civil works budget request in fiscal year 2010 was \$5.125 billion.

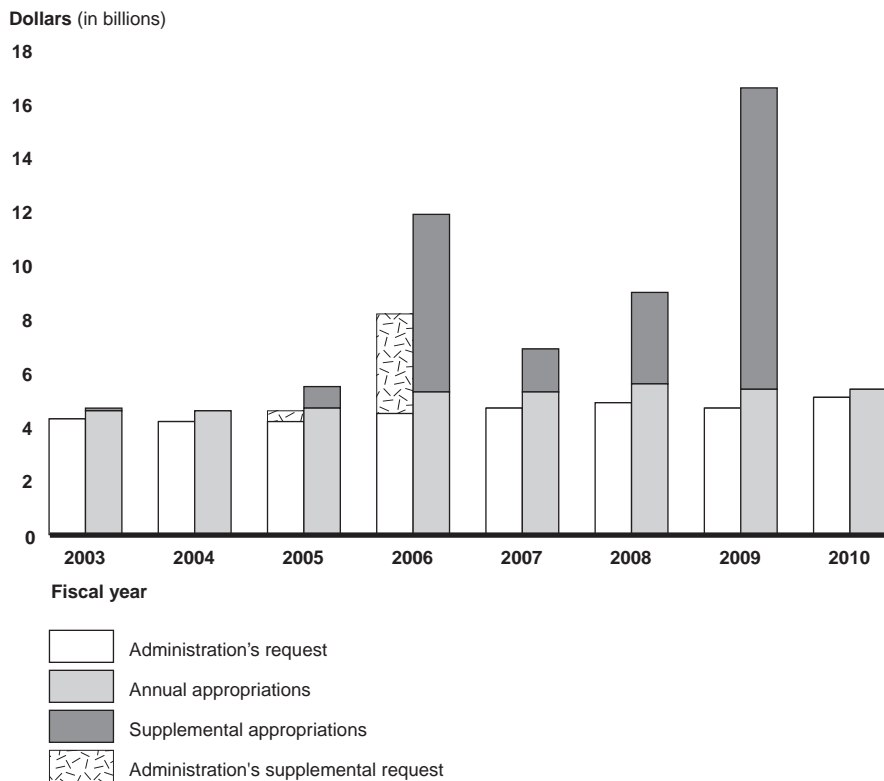
Source: GAO analysis of U.S. Army Corps of Engineers data.

Note: the "Other" category consists of the following six accounts: Regulatory Program, Mississippi River and Tributaries, Expenses, Flood Control and Coastal Emergencies, Formerly Utilized Sites Remedial Action Program, and the Office of the Assistant Secretary of the Army (Civil Works).

Since fiscal year 2006 the Corps has received appropriations of over \$5 billion annually for its civil works program through the Energy and Water Development Appropriations Act. Committee and conference reports accompanying the appropriations bills include specific allocations of funding for individual projects. The Corps also typically receives funds, particularly for construction projects, from each project's local sponsor, which may be a state, tribal, county, or local agency or government.⁹ In addition to the funding received through annual appropriations acts, the Corps received supplemental appropriations in 6 of the past 8 fiscal years. Some supplemental appropriations have been designated for specific activities. For example, a Corps official told us that in fiscal year 2009 the agency received supplemental funding of about \$5.8 billion for hurricane protection in Louisiana. In recent years, most supplemental funding provided to the Corps has been used for expenses related to the consequences of 2005 Gulf Coast hurricanes, including Hurricane Katrina. According to the Corps official, funding has also been directed to expenses related to the consequences of hurricanes Gustav and Ike (both 2008 hurricanes), as well as the 2008 Midwest floods. The Corps also received \$4.6 billion in fiscal year 2009 through the American Recovery and Reinvestment Act. Figure 3 shows the amount of funding the administration has requested for the Corps' civil works program and the amount the Corps has received, both through annual and supplemental appropriations, from fiscal years 2003 through 2010.

⁹ The Water Resources Development Act (WRDA) of 1986 stipulated that nonfederal sponsors share the cost of planning and implementing Corps projects. The division of federal and nonfederal cost-sharing required varies by project purpose. Funding from nonfederal sources is not included in figure 3.

Figure 3: Total U.S. Army Corps of Engineers Annual and Supplemental Appropriations, by Fiscal Year



Source: GAO analysis of U.S. Army Corps of Engineers data.

Note: Dollar amounts are nominal.

Rescissions are included in the annual request and appropriations amounts.

The Corps' strategic plan for its civil works program lays out its goals and objectives and its strategies for achieving them. The Corps' current strategic plan covers fiscal years 2004 through 2009, and the Corps is planning to issue an updated version that will cover fiscal years 2010 through 2014.¹⁰ The goals listed in the most recent strategic plan are: (1) provide sustainable development and integrated management of the nation's water resources; (2) repair past environmental degradation and prevent future environmental losses; (3) ensure that projects perform to meet authorized purposes and evolving conditions; (4) reduce vulnerabilities and losses to the nation and the Army from natural and

¹⁰ A Corps official told us that he expects the updated strategic plan to be issued in 2010.

man-made disasters, including terrorism; and (5) be a world-class engineering organization.¹¹

The Corps' Budget Formulation Process Favors Projects with the Highest Anticipated Outcomes and Emphasizes Agencywide Priorities

The Corps' Use of Performance-Based Budgeting Emphasizes Anticipated Returns and Takes a Centralized Approach to Decision Making

Prior to fiscal year 2006, the Corps' budget formulation process was relatively decentralized, with divisions playing a significant role. According to Corps officials, the Corps' previous budget formulation process for the Construction, Investigations, and O&M accounts started with district staff, who developed a request for their geographic area. Next, division staff integrated the district office projects into a single divisionwide portfolio of projects. Finally, headquarters staff consolidated each of the divisionwide portfolios into a single agencywide portfolio. Under the former process, each division was authorized an amount of funding, which division officials would allocate with two conditions: (1) all projects were required to meet administration priorities, and (2) construction and investigations projects that reached a certain stage were required to have benefits that at least equaled costs. Corps officials told us that they sought to provide continued funding to all ongoing projects that fit within administration guidelines.

Beginning in fiscal year 2006 the Corps introduced what it refers to as performance-based budgeting as a way to focus funding requests on those projects with the highest anticipated return on investment, not on all ongoing projects as it sought to do in the past. Under the new process, Corps headquarters began playing a greater role in selecting projects,

¹¹ A Corps official told us that the Corps plans to revise the strategic goals from five to four. The fifth goal will be incorporated into the others.

using performance criteria that emphasize agencywide priorities. Specifically, although districts and divisions continue to collect and develop project data, ranking of construction and investigations projects is now done only at the headquarters level. While division staff still rank O&M projects, a Corps official told us that headquarters staff review these rankings to make sure that they are consistent with Corps-wide guidance and result in decisions that emphasize agencywide priorities. Then, they consolidate the O&M requests across business lines and divisions to a highest priority grouping. According to a Corps official, the use of performance-based budgeting has allowed the Corps to present OMB with various funding options based on performance criteria. While the Corps also presented OMB with different options prior to fiscal year 2006, the official told us that under that process these options reflected regional priorities.

Under its current budget formulation process, the Corps uses performance metrics to evaluate projects' estimated future outcomes, and gives priority to those with the highest expected returns for the national economy and the environment, as well as those that reduce risk to human life. The Corps' written budget guidance, the Budget Engineer Circular (Budget EC), details the data that should be developed for each project to support budgetary decisions. For example, the Corps calculates the economic benefits of most construction and investigations projects using a BCR.¹² The Corps uses projects' BCRs to evaluate them against each other and determine whether they will be given priority in the budget request. According to Corps and OMB staff, each year OMB sets minimum BCR thresholds that some construction and investigations projects must meet to be included in the budget request. If projects do not meet the designated BCR thresholds, they may qualify in other ways, such as by restoring a nationally significant ecosystem or addressing risk to human life. The use of these metrics to evaluate projects provides the Corps with a mechanism to give priority to projects that, based on the current method of calculation, may not generate any economic benefits or have relatively low BCRs, but benefit nationally significant ecosystems or address risk to human life. For O&M projects, imminent risk to human life and the amount of commercial tonnage transported on a waterway are examples of the

¹² The Corps calculates BCR differently for various types of projects, but it generally represents the value of damages avoided as a result of constructing a project, divided by the life-cycle cost of the project for the Corps. See app. III for additional discussion of the BCR calculation.

types of factors described in the Budget EC that influence the priority of a navigation project.

Additionally, the Corps' use of performance metrics makes projects in certain geographic areas more likely to be included in the budget request, since they produce higher returns on investment. For example, since a primary input in BCR calculations for Flood Risk Management projects is the value of property for which damage would be prevented as a result of the project, projects in areas with high property values—such as in California—tend to have higher BCRs.¹³ Ecosystem restoration projects with national significance are also given priority under this process. More specifically, the Everglades in Florida has consistently been among the projects included in this category, and over the past 5 years has been the project with the most funding requested. In addition, the risk to human life metric is affected by population density, so more densely populated areas tend to be given priority.¹⁴

According to Corps and OMB staff, another effect of the performance criteria used as part of the current budget process is that fewer construction and investigation projects have been included in the budget request in recent years. Corps officials also attributed the decrease in number of projects to available funding and budget cutoffs, such as the BCR. From fiscal year 2001 to 2010, the number of construction projects included in the budget request decreased by about 52 percent, and the number of investigations projects decreased by about 79 percent. Though the number of construction and investigations projects decreased, the average amount requested per project has increased over time. For example, the average request per construction project went from \$7.0 million in fiscal year 2001 to \$17.3 million in fiscal year 2010.¹⁵ In contrast to trends in the Construction and Investigations accounts, the use of the ranking metrics does not appear to have had a significant effect on the O&M account; the number of projects within the O&M account has remained relatively stable. From fiscal year 2001 to 2010, the number of O&M projects requested increased by about 7 percent. Corps officials told us that the relative consistency of the O&M account is partially due to the

¹³ Appendix III contains a more detailed description of how BCR is calculated for different project types.

¹⁴ The risk to human life metric is also affected by factors such as the velocity and depth of flood waters, as well as warning and escape times.

¹⁵ Requested amounts were not adjusted for inflation.

emphasis on critical routine projects and activities. Because the performance metrics used to evaluate O&M projects—such as the amount of commercial tonnage transported on a waterway—tend to be consistent, and a large portion of projects are routine (occurring every year or on an otherwise cyclical basis), the projects given priority tend to be the same from year to year. Additionally, they told us that because there are more project activities of lower value in the O&M account, changes to specific projects generally do not affect the overall request amount as significantly as variations in the projects in the Construction account do. In fiscal year 2010, the average amount requested per O&M project was \$2.8 million. Budget trends are discussed in more detail in appendix IV. OMB staff that review the budget request for the Corps concurred that the nature of the O&M account results in more stability in project selection than in the Construction and Investigations accounts.

The Corps' Budget Formulation Process Focuses on Projects' Anticipated Outcomes, Rather than Demonstrated Performance

The Corps uses performance metrics in its budget formulation process that primarily focus on anticipated outcomes with limited evidence of how performance information measuring demonstrated performance factors into decisions on budget requests. In part, the Corps focuses on anticipated outcomes because most of the construction and investigations projects being considered in the budget request are new or have not yet been completed, and thus have not generally begun to achieve benefits. Because the O&M account includes projects that have already been constructed, the Corps incorporates ongoing performance information, such as assessments of whether infrastructure meets current engineering and industry standards, to a greater extent when budgeting for these projects. Even though the overall focus for budget formulation of the three accounts is on anticipated outcomes, Corps officials told us that they monitor the progress of projects underway through review boards established at the district, division, and headquarters levels within the agency. These review boards generally meet monthly and focus on project management issues. These issues include whether projects are meeting financial goals and other milestones, such as awarding contracts on schedule. Review boards also discuss progress on two of the nine business lines each month and, on average, each business line is reviewed at least twice annually.¹⁶ A Corps headquarters official told us that the

¹⁶ As previously described, the nine business lines are: Navigation, Flood Risk Management, Environment, Recreation, Hydropower, Water Supply, Emergency Management, Regulatory Program, and Support for Others.

performance metrics presented at review boards demonstrate good performance, areas that need improvement, and situations where focused leadership attention would be useful. For example, Corps documentation showed that in a meeting in which it focused on the Flood Risk Management business line, the headquarters-level program review board looked at measures such as the number of dam safety assessments completed and the percentage of dams rated as unsafe. Although review boards collect a variety of performance information, the Corps does not have written guidance establishing a process for incorporating their findings into budget formulation decisions.¹⁷ Our previous work on performance-based budgeting found that federal agencies that were successful in measuring their performance worked to ensure that decisions were based on complete information.¹⁸ The Corps collects numerous data and has detailed processes for evaluating projects during the budget formulation process; however, in the absence of a documented process for considering information on demonstrated performance—such as the performance information discussed during review board meetings on whether projects are on time and on budget—the Corps may miss opportunities to make the best use of this information. Additionally, without a documented process it is not clear how information from the review boards shapes program priorities and affects decision making.

The Corps' Budget Presentation Lacks Transparency on Key Elements of Its Budget Request

Our prior work has emphasized the importance of transparency in federal agencies' budget presentations.¹⁹ While the budget presentation for the Corps includes summaries of project categories, business lines, and accounts, it lacks summary-level information on the relationships and trade-offs made across these groups. For example, the presentation for the fiscal year 2010 budget request describes the primary criteria used to evaluate both construction and O&M projects. However, it does not include an explanation of how the Corps makes trade-offs among the project types in these accounts—for example, the budget presentation

¹⁷ A Corps official told us that certain projects may receive more or less funding on a case-by-case basis depending on issues identified at review boards. Because the Corps does not compile detailed information on how review board findings affect budgetary decisions, we could not determine how often this occurs.

¹⁸ GAO, *Executive Guide: Effectively Implementing the Government Performance and Results Act*, [GAO-96-118](#) (Washington, D.C.: June 1996).

¹⁹ GAO, *Veterans' Disability Benefits: More Transparency Needed to Improve Oversight of VBA's Compensation and Pension Staffing Levels*, [GAO-05-47](#) (Washington, D.C.: Nov. 15, 2004).

does not include an explanation of the priority given to dam safety projects over other construction project categories, or the effects that this has on the other categories. It also lacks an explanation of the impact of emphasizing one account over another. Congressional users of the budget presentation told us that having summary information on how decisions that significantly affect the budget request are made would enhance their understanding of the budget process.

The budget presentation for the Corps only includes detailed information on the projects the President proposes to fund in the budget year, even though appropriated funding is provided to a number of projects that are not included in the budget request.²⁰ House appropriators have voiced interest in having the Corps include additional information in the budget presentation. For example, the House committee report accompanying the fiscal year 2010 Energy and Water Development Appropriations bill requested that the Corps include in the fiscal year 2011 budget presentation project-level details for all of the projects that received appropriations in fiscal year 2010. Part of the reason for this request may be the difference between the number of projects requested in the budget for the Corps and the number that actually receive appropriations. For example, a Corps official told us that in fiscal year 2010 appropriated funds were applied to 278 construction projects, whereas the fiscal year 2010 budget request included 93 construction projects. Additionally, in fiscal year 2010 appropriated funds were applied to 315 investigations projects, while the fiscal year 2010 budget request included 68 investigations projects.^{21, 22} Moreover, work on most construction and investigations projects is conducted over multiple years and thus projects require appropriations in more than 1 year. With over twice as many

²⁰ Some information on projects not in the budget request is included in the Fiscal Year 2009 Five Year Development Plan. This document includes a listing of construction and investigations projects that make up an “enhanced plan” budget scenario, which is based on the prior year’s appropriations. The listing includes the project name, the state and division in which the project is located, and estimates of fiscal year 2009 and subsequent year funding requirements. At a summary level, the Five Year Development Plan describes how the enhanced plan would affect business line performance.

²¹ The projects that received appropriations and the projects for which funding was requested included both new and ongoing projects. Project numbers do not include construction or investigations projects in the Mississippi River and Tributaries (MR&T) account.

²² The fiscal year 2011 budget request included 95 construction projects and 65 investigations projects. These numbers do not include projects in the MR&T account.

projects receiving funds than were included in the budget request, an information gap is created when an administration highlights its priority projects, but does not provide sufficient information on other ongoing projects that may continue to have resource needs. Congressional users of the Corps' budget presentation told us that they are interested in previously funded projects not included in the budget request, and that not having information on these projects limits the ability of Congress to make fully informed decisions when making appropriations decisions. A Corps official told us that the Corps would be able to include in the budget presentation information on projects funded in the previous year.

Senate appropriators have also expressed interest in greater project level information for the O&M account. Specifically, the Senate conference report accompanying the fiscal year 2010 Energy and Water Development Appropriations bill requested that the Corps provide in the fiscal year 2011 budget presentation, at a minimum, detailed project information justifying the need for each O&M project. For example, although the fiscal year 2010 budget request for the Corps included \$2.5 billion for the O&M account (approximately 49 percent of the total request), the budget presentation for the Corps did not include detailed project-level information for this account or sufficient summary information to understand the status of O&M project implementation against agency projections or other benchmarks. Similarly, the Press Book lists all O&M projects in the request and the amount requested for each, but it does not provide any detailed information on how requested funding will be used. Furthermore, although the fiscal year 2010 budget justification provided detailed project-level information, such as narrative descriptions and previous funding allocations, for construction and investigations projects, it did not include any information on requested O&M projects. Congressional users of the budget presentation told us that such information would increase the usefulness and transparency of the presentation. Following up on the Senate's request, the fiscal year 2011 budget request for the Corps included summary-level information describing how funding for each requested O&M project would be used. The Senate did not specify whether its request applies to fiscal years beyond 2011.

Finally, the budget presentation for the Corps does not include information on how much carryover of unobligated appropriations is available to potentially offset new requests for projects that were previously funded, which congressional users of the budget presentation

stated would be useful.²³ With this information, they can consider how much of the previous year's funding remains available for obligations. Moreover, Corps officials told us that carryover amounts have increased in recent years.²⁴ The budget request for the Corps includes aggregate information on carryover balances by account, but neither it nor the budget presentation includes information on how much carryover is available for specific projects. Accordingly, Congress has not been able to consider the full level of resources available for projects when making its appropriations decisions. Corps review boards routinely review whether projects are meeting financial milestones, so carryover balance information is available. However, a Corps official told us that project-level carryover estimates would not be available until after budget materials are submitted to Congress. According to this official, while the Corps is not able to include this information in the budget presentation, the Corps would be able to provide Congress with project carryover amounts separately and before final appropriations decisions are made.

Conclusions

The Corps' move toward including performance information in the budget formulation process has given priority to the projects with the highest anticipated returns on investment. Although the Corps collects data on the demonstrated performance of ongoing projects and on a case-by-case basis may use this information in budget decisions, it does not have a documented process to incorporate this type of information in budget formulation decisions. Without an established process to ensure that decision makers are aware of this information, relevant information may not always be considered in budget decisions.

The current budget formulation process emphasizes agencywide priorities and focuses on projects with the highest estimated returns; however, the budget presentation for the Corps continues to lack transparency and key information that could be of use to congressional decision makers. While

²³ During the period examined for this report, Corps accounts received "no-year" appropriations—that is, funds that are available for obligation until expended—so funding may be carried over to subsequent fiscal years. For example, if the Corps obligates \$40 million of a \$50 million appropriation, the \$10 million that was not spent is available for use in subsequent years, with certain conditions.

²⁴ A Corps official attributed the increase in carryover partially to the large amount of supplemental funding the Corps has received in recent years. In the past the Corps had a goal that projects have no carryover from year to year, but Corps officials told us that the agency no longer has this goal.

the budget presentation for the Corps includes a description of the primary metrics used to evaluate projects, it does not include a description of how decisions and trade-offs were made across project categories, business lines, or accounts.

Although annual appropriations and accompanying committee and conference reports sometimes designate funds to be used for specific construction, investigations, and O&M projects, the budget presentation for the Corps lacks two types of project-level information that could be useful to congressional decision makers. First, the budget presentation lacks information on many projects that were previously funded and may continue to have resource needs. Because appropriators are likely to consider these projects for funding again, information on these projects is relevant and useful in the decision-making process. Second, the budget presentation lacks information on the amount of unobligated appropriations that remain available for each project. Such project-level information would help congressional decision makers make better informed appropriations and oversight decisions.

Without such information it is unlikely that Congress can have a clear understanding of (1) how key trade-off decisions affected the budget request, (2) how new funding requests relate to funding decisions for existing projects with continuing resource needs, and (3) whether a given budget request and the underlying projects support longer term goals and priorities across component operations.

Recommendations for Executive Action

To ensure that all relevant information is considered during the budget formulation process, we recommend that the Secretary of Defense direct the Chief of Engineers and Commanding General of the U.S. Army Corps of Engineers to take the following action:

- Establish a documented process to incorporate assessments of ongoing project performance, such as information from review boards, into the budget formulation process.

To improve the transparency and usefulness of the Corps' budget presentation to Congress, building on the information the appropriators have requested the Corps provide, we recommend that the Secretary of Defense direct the Chief of Engineers and Commanding General of the U.S. Army Corps of Engineers to work with OMB and Congress to take the following four actions:

-
- Include in the annual budget presentation for the Corps summary-level information on how the budget request reflects decisions made across project categories, business lines, and accounts.
 - Continue to include in the annual budget presentation for the Corps project-level details for the O&M account, including an explanation of how the requested funding for each project will be used.
 - Provide project-level information on all projects with continuing resource needs, either as part of the budget presentation or as supplementary information.
 - As a supplement to the budget presentation, provide Congress with information on the estimated carryover of unobligated appropriations that remain available for each project.

Agency Comments and Our Evaluation

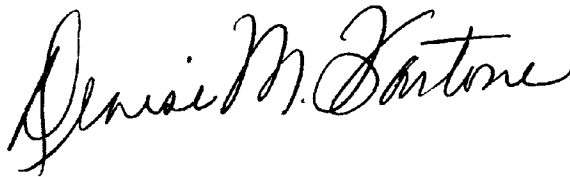
We provided a draft of this report to the Department of Defense for official review and comment. The department provided us with written comments, which are summarized below and reprinted in appendix V. The department concurred with four of our recommendations and did not concur with one. Specifically, the department concurred with our recommendations that the Corps include additional information in the budget presentation, including summary-level information on how the budget request reflects decisions, project-level details for the O&M account, and project-level information on all projects with continuing resource needs. The department also concurred with our recommendation that the Corps provide Congress with information on the estimated carryover of unobligated appropriations that remain for each project. The department did not agree, however, with our recommendation that the Corps establish a documented process to incorporate assessments of ongoing project performance, such as information from review boards, into the budget formulation process. The department stated that its existing mechanisms to incorporate assessments of project performance into the budget formulation process are adequate and that project review findings are used in making budgeting decisions. It also provided an example of how actual performance of O&M projects is used to determine budget priority. While we agree that the Corps' current processes may incorporate project review findings, we continue to believe that establishing a documented process for the use of such information in the Corps' budget formulation would ensure that the Corps routinely makes the best use of all available information. Additionally, having a documented process would improve understanding of how information from the review boards shapes program priorities and affects decision making. Moreover, our report discusses the Corps' use of information on project progress, such as whether schedule and budgetary milestones are being met, through review boards at the district and division levels. However, according to Corps officials, this review board information affects funding decisions on a case-by-case

rather than routine basis. Finally, we have clarified in our report that we agree that the Corps' budget formulation process for the O&M account reflects actual performance. Nonetheless, we continue to believe that the overall emphasis of the Corps' budget process is on anticipated rather than demonstrated performance.

We are sending copies of this report to the appropriate congressional committees, the Secretary of Defense, and the Chief of Engineers and Commanding General of the U.S. Army Corps of Engineers. In addition, this report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staff have any questions regarding this report, please contact Denise M. Fantone, (202) 512-6806 or fantoned@gao.gov or Anu K. Mittal at (202) 512-3841 or mittala@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix VI.

Sincerely yours,



Denise M. Fantone
Director, Strategic Issues



Anu K. Mittal
Director, Natural Resources and Environment

Appendix I: Objectives, Scope, and Methodology

To analyze the U.S. Army Corps of Engineers' (Corps) budget formulation process, we examined (1) the information the Corps uses in its budget formulation process and the implications of the process and (2) whether the President's budget request for the Corps is presented so that agency priorities are clear and the proposed use of funds transparent. We focused our review on three of the Corps' accounts—Construction, Investigations, and Operation and Maintenance (O&M). Most civil works funding is designated to be used for specific projects, and projects are classified mainly into these accounts. The Formerly Utilized Sites Remedial Action Program (FUSRAP) is also project-based, but we did not include it in our review because of its specialized focus on sites contaminated during the development of atomic weapons and relatively small size (the fiscal year 2010 budget request for the Corps included 24 FUSRAP projects).

To understand the Corps' budget formulation process and identify the information used to evaluate projects, we reviewed documentation related to the process. We examined the Corps' Budget Engineer Circular used in formulation of the fiscal year 2011 budget request. This document guides the formulation of the budget within the Corps. We reviewed Corps construction project rankings from fiscal year 2006, the first year in which the Corps ranked construction projects using performance information, through fiscal year 2010, the most recent year from which ranking information was available at the time of our review. In addition, we reviewed records of the agency's internal project performance reviews and documentation of the data collected as part of the budget formulation process. We also interviewed Corps headquarters officials in the Program Integration Division, including those responsible for budget formulation and execution, and officials at all eight U.S. division offices. In our interviews with division officials we used a common set of questions that focused on officials' perspectives on the effects at the division level of performance-based budgeting, as compared to the previous budget formulation process. To examine the effects of the Corps' budget formulation process, we also analyzed Corps budget and project data from fiscal years 2001 through 2010, the 5 years before and the 5 years after the implementation of performance-based budgeting. We did not review in detail the fiscal year 2011 budget for the Corps, as it was released after our audit work concluded, though we did examine it for key changes from the previous year. We reviewed the metrics and measures used to rank Corps projects and how they have changed since fiscal year 2006. We examined Corps guidance on calculating the benefit-cost ratio (BCR) of projects and interviewed Corps officials about the BCR and other metrics used in budgeting and the related effects on the budget request. In reviewing budgeting metrics and rankings, we did not evaluate the accuracy of the

Corps' calculations for BCR or other metrics. Our recommendation related to the budget process is based on previous GAO work which identified leading practices for performance-based budgeting.

To evaluate how the President's budget request for the Corps is presented, we reviewed budget presentation materials, including the President's budgets and appendices and the budget justifications and Press Books from fiscal years 2006 through 2010. We also reviewed the Corps' Five Year Development Plans for fiscal years 2007 through 2011, 2008 through 2012, and 2009 through 2013. We reviewed past GAO work on best practices of performance-based budgeting and examples of budget presentations for other agencies. To obtain input from users of the budget presentation for the Corps, we interviewed staff from relevant congressional committees. We also reviewed appropriations committee reports from fiscal years 2005 through 2010. We interviewed Corps and Office of Management and Budget (OMB) officials about the reasons for the structure and information provided in the budget presentation, and about the feasibility of making specific changes to it. Our recommendations related to budget presentation are based on information from users of the budget presentation, as well as previous GAO work on performance-based budgeting.

We conducted this performance audit from March 2009 to March 2010 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Project Prioritization in the Construction, Investigations, and O&M Accounts

The Construction Account According to a U.S. Army Corps of Engineers (Corps) official, for the Construction account, projects are systematically classified into established categories and headquarters officials use specific metrics, outlined in the Budget Engineer Circular, to rank projects within these categories. Corps documentation shows that construction projects are ranked within seven categories: (1) dam safety assurance, seepage control, and static instability correction projects; (2) projects with mitigation or environmental requirements; (3) projects with substantial life-saving benefits; (4) high-performing ongoing projects; (5) high-performing new start projects; (6) qualifying ongoing projects with continuing contracts; and (7) projects scheduled to be completed in the fiscal year of the budget request. The primary metrics that are to be used to rank projects within each of these categories are listed in table 2, along with a breakdown of funding by project type in the fiscal year 2010 budget request for the Corps. However, according to Corps officials, the metrics alone do not always determine the priority given to a project in the budget request, as varying degrees of professional judgment are involved in ranking individual projects. For example, high-performing projects (excluding those related to ecosystem restoration) are ranked primarily using the benefit-cost ratio (BCR). Once a project's BCR has been calculated, Corps officials have minimal discretion because, according to Corps and Office of Management and Budget (OMB) staff, OMB establishes minimum BCR thresholds and projects that do not meet the threshold cannot be included in the budget request in the high-performing category. On the other hand, while some metrics are applied to rankings of ecosystem restoration projects, a Corps official described these as more subjective. For example, a greater amount of professional judgment is used in evaluating the significance of one habitat against others.

Table 2: Construction Categories and Ranking Metrics (Fiscal Year 2010 Budget Request)

Category	Ranking metrics (fiscal year 2010)	Percent of fiscal year 2010 construction project budget request
Dam safety assurance, seepage control, and static instability correction projects	Dam safety ranking, which is based on risk factors such as the dam's condition and danger to human life.	32 %
Projects with mitigation or environmental requirements	Required by environmental treaties or mitigation requirements.	13
Projects with substantial life-saving benefits	Risk to human life (e.g., from flooding).	14

Appendix II: Project Prioritization in the Construction, Investigations, and O&M Accounts

Category	Ranking metrics (fiscal year 2010)	Percent of fiscal year 2010 construction project budget request
High-performing ongoing projects	For all project types except ecosystem restoration: benefit-cost ratio (BCR) (2.5 to 1 or greater). Ecosystem restoration: Cost-effectively contribute to the restoration of a nationally or regionally significant aquatic ecosystem that has become degraded as a result of a civil works project or a restoration effort for which the Corps is otherwise uniquely well-suited.	27
High-performing new start projects	For all project types except ecosystem restoration: BCR (3.2 to 1 or greater). Ecosystem restoration: same as above.	3
Qualifying ongoing projects with continuing contracts	Special category for projects with continuing contracts that were not convertible to annual contracts.	8
Fiscal year 2010 completions	Projects scheduled to be completed in fiscal year 2010.	3

Source: GAO analysis of U.S. Army Corps of Engineers data.

A Corps headquarters official told us that headquarters officials largely evaluate construction projects across categories on a case-by-case basis. Although performance-based budgeting has made ranking projects within categories more systematic, the Corps official added that professional judgment is still needed to compare projects across categories. For example, while formal written guidance documenting priorities across categories does not exist, dam safety projects are generally the highest priority among the project categories because these dams are already built and need to be maintained to provide continued protection to people living in the area. This is supported by Corps ranking data from the past 5 fiscal years, as the highest priority dam projects have generally been budgeted for the maximum amount of funding that the Corps determines can be effectively used. According to our analysis of Corps data, in most years since performance-based budgeting was begun, the funding requested for dam safety projects has been among the highest of the construction categories. In addition, the agency requests enough funding for projects with environmental or mitigation requirements to meet annual targets laid out in environmental plans. Other than dam safety and projects with environmental requirements, the Corps official could not generalize about the relative priority or level of funding requested for the remaining project categories, noting that they are decided on a case-by-case basis. A Corps official told us that administration priorities influence budget formulation, and may be communicated to the Corps through OMB's written feedback on the budget submission or in a letter from the Assistant Secretary of the Army for Civil Works.

The Investigations Account

For the Investigations account, information used to make budgetary decisions varies depending on the phase of the project—reconnaissance study, feasibility study, and preconstruction engineering and design. In the first two phases, a Corps headquarters official told us that the Corps relies primarily on professional judgment and other factors, but that by the last phase, data are available to guide decision making. More specifically, the first phase of an investigation is a reconnaissance study, which is conducted to understand the nature of a water resources problem and determine the federal government’s interest. To determine if a potential project warrants a reconnaissance study, he also stated that the headquarters business line managers meet with the Chief of Budget Development to discuss the merits of conducting the study. They make funding decisions based on a narrative description of the proposed study. At this point in the process, since the study is still prospective and there is no performance information available, agency officials rely primarily on their professional judgment, as they did prior to the use of performance-based budgeting. If the Corps determines through the reconnaissance study that there is a federal interest in the study, and local sponsors are available, as required by law, a feasibility study is conducted. This type of study is done to formulate and recommend specific solutions to a water resources problem.

At the end of the feasibility study phase, performance information, such as BCR and returns for the environment, is available to inform decisions about which projects will move on to the final phase of the investigation, preconstruction engineering and design.¹ Corps officials consider the same metrics used to evaluate construction projects since the purpose of this phase is to determine whether a project should be authorized for construction.

The Operation and Maintenance Account

For the Operation and Maintenance (O&M) account, the divisions have a greater role in selecting projects in certain funding increments. Although the budget formulation process for the O&M account is less centralized than it is for Construction and Investigations, Corps headquarters and division officials described how the process is more centralized than it was prior to the introduction of performance-based budgeting, when the divisions could largely distribute funding as they saw fit. Corps officials noted that for increments 1 and 2, the highest priority increments, Corps

¹ Many projects must also have nonfederal sponsors to advance to the next phase.

division officials identify critical projects, equaling up to 75 percent of the average of their previous 5 years' budget requests. According to the Budget Engineer Circular (EC), the first increment should represent critical routine projects, meaning projects that are done every year or on a cyclical basis, or projects that are required in order to meet legal and environmental requirements or for historic preservation. For example, the ongoing operation of a powerhouse and the biennial dredging of a channel could be included in this increment. The Budget EC notes that the second increment should also represent critical projects, though these do not take place on a regular basis. An example of this would be the replacement of a potable water well or a broken gate on a lock.² In addition, a Corps official stated that business line managers at Corps headquarters provide oversight to ensure the divisions include projects in the first two increments that reflect Corps-wide priorities. They read the divisions' narrative descriptions of how they plan to use the requested funding and what the consequences would be if the projects did not receive the funding. In addition, as stated in the Budget EC, the projects in increment 3—equaling up to 25 percent of the average of the previous 5 years' budget requests for each division—are also considered critical, but are of lower priority than the first increments. A Corps official noted that headquarters officials play a greater role by evaluating increment 3 projects across divisions to determine which projects will be included in the ceiling level of funding. Unlike increments 1 and 2, in which the divisions can generally be assured of a certain level of funding, some increment 3 projects may only be funded if the Corps receives more than the ceiling level of funding. Finally, increments 4 and 5 are lower priority projects above the ceiling level of funding.

The Corps' Budget EC provides detailed guidance to divisions on the metrics that should be considered to determine which O&M projects and activities receive priority. Imminent risk to human life, court mandates, strategic importance to the Department of Defense, and the amount of commercial tonnage transported on a waterway are among the factors that would give a waterway higher priority status. For example, the Budget EC provides specific tonnage ranges to assess the relative levels of commerce on particular waterways. Thus, all else being equal, a project that is critical to the operation of a waterway with a high level of commercial tonnage will be given priority over a project that is equally critical to the operation

² A section of a waterway, such as a canal, closed off with gates, in which vessels in transit are raised or lowered by raising or lowering the water level of that section.

of a waterway with a low level of commercial tonnage. The Budget EC also specifies that, even if waterways do not support a high level of commercial tonnage, they can be included in the budget request if they support significant commercial fishing and public transportation, or are subsistence harbors, which local communities depend on for survival, or harbors of refuge, which are protected from heavy seas.

Decision Making Across Accounts

Although the Budget EC provides guidance on the metrics that should be considered in determining which projects and activities receive priority, the Corps does not have formal guidance for making trade-off decisions while formulating the budget across Construction, Investigations, O&M, and the other accounts. According to a Corps official, however, the agency does have an informal process for making these trade-off decisions. First, the Corps headquarters business line managers and the Chief of Budget Development meet to consider the construction and investigations projects in the prior year's budget request. The goal is to maintain continuity of ongoing projects, provided they still meet the performance criteria, so these projects' minimum needs are met. Next, the managers of the nonproject-based accounts and the Chief of Budget Development consider these accounts, including General Expenses and the Regulatory Program, and determine what it would take to maintain the existing level of service. Then, with the remaining funds, headquarters business line managers and the Chief of Budget Development consider O&M projects above increments 1 and 2, since these initial increments are included in the ceiling level of funding. Finally, they consider high-performing new start construction projects after the ceiling level of funding has been reached.

Appendix III: Methodology for Calculating Benefit-Cost Ratio and Changes in Requirements Over Time

Benefit-cost ratio (BCR) is calculated differently for various types of projects, but generally represents the value of damages avoided as a result of constructing a project, divided by the life-cycle cost of the project for the U.S. Army Corps of Engineers (Corps).¹ Table 3 summarizes the primary inputs used to calculate benefits.

Table 3: Summary of Primary Inputs Used to Calculate Benefits for Different Project Types^a

BCR	Flood Risk Management and Coastal Storm Damage	Navigation (deep draft and inland)	Navigation (shallow draft)	Hydropower
Primary benefits	Estimated cost of property damage and emergency response prevented as a result of the project	Estimated shipping savings resulting from the project	Estimated cost of vessel damages prevented as a result of the project	Estimated difference in cost between providing hydropower compared to other available power sources

Source: GAO summary of U.S. Army Corps of Engineers information.
^aAccording to Corps officials, the benefits listed here are the ones that typically have the most significant effect on benefit calculations. Other factors, such as recreation value, may also be included in the benefit estimates.

Table 4 shows a simplified example of how BCR would be calculated for two alternative construction projects aimed at reducing the transportation costs to users of a channel. The first example, channel deepening, would generate benefits due to several factors. First, a deeper channel would accommodate larger vessels, which are more efficient and have a lower per-unit cost. Additionally, vessels sometimes have to wait for tidal changes so that there is sufficient channel depth. Deepening the channel reduces or eliminates the need to do this and thus creates savings. Finally, if a channel is not deep enough to accommodate a vessel, the cargo must sometimes be transferred to a vessel with a more shallow draft.² If deepening reduces or eliminates this need, cargo handling savings are created.

The second example, channel widening, would generate benefits due to reductions in vessel delays. This would occur if the widening allowed more vessels to use the channel at one time. For example, the channel might currently only permit one-way vessel traffic, but the widening would allow two-way traffic. The reduction in delays generates savings. Similarly,

¹ Life-cycle cost is the overall estimated cost for a particular project over the time period corresponding to the life of the project, including periodic or continuing costs of operation and maintenance.

² Draft refers to the depth of a vessel's keel below the water line, especially when loaded.

**Appendix III: Methodology for Calculating
Benefit-Cost Ratio and Changes in
Requirements Over Time**

sometimes weather-related factors such as fog require wider channels. If a wider channel permits increased vessel traffic during foggy conditions, savings are also generated. According to a Corps official, channel widening projects are typically less expensive than channel deepening projects, though their benefits also tend to be lower.

Table 4: Hypothetical BCR Calculation for Two Alternative Construction Projects

Alternatives for reducing transportation costs			
Channel deepening		Channel widening	
Benefits			
Savings due to lower per-unit cost of transporting goods - a deeper channel can accommodate larger vessels	\$6,200,000	Savings due to reduced delays - a wider channel would allow two-way vessel traffic	\$2,500,000
Savings due to reduced delays - deep-draft vessels do not have to work around the tide schedule	\$1,400,000	Savings due to reduced delays - a wider channel would reduce weather-related delays	\$700,000
Savings due to reduced cargo handling costs - there is a reduced need to transfer goods to shallow-draft vessels	\$500,000		
Total increased benefits	\$8,100,000	Total increased benefits	\$3,200,000
Costs			
Construction and maintenance	\$3,100,000	Construction and maintenance	\$1,700,000
Benefit-cost ratio			
	2.61		1.88
Eligible for authorization (FY2010) ^a	YES	Eligible for authorization (FY2010) ^a	YES
Eligible for budgeting as an ongoing project (FY2010) ^b	YES	Eligible for budgeting as an ongoing project (FY2010) ^b	NO
Eligible for budgeting as a new start project (FY2010) ^c	NO	Eligible for budgeting as a new start project (FY2010) ^c	NO

Source: GAO Analysis of U.S. Army Corps information.

^aIn order to be eligible for authorization, most construction projects must have a BCR of at least 1.

^bProjects that do not qualify for budgeting by restoring ecosystems or addressing risk to human life must meet BCR thresholds set by the administration. In fiscal year 2010 the BCR threshold for ongoing projects was 2.5. These examples assume that the projects would not qualify for budgeting for environmental or risk to human life reasons.

^cIn fiscal year 2010 the BCR threshold for new start projects was 3.2. These examples assume that the projects would not qualify for budgeting for environmental or risk to human life reasons.

The minimum BCR has been higher for new start construction projects than ongoing projects, reflecting the administration's preference for fewer new start projects. Prior to fiscal year 2008, a different measure was used instead of BCR as the primary economic metric. Table 5 shows the changes in the BCR requirements over the past 5 years. Office of Management and Budget (OMB) staff stated they recommended changing the measure to create more stability. Nevertheless, according to Corps division officials, there is still uncertainty about whether particular projects will be included in the budget request. Since, according to Corps and OMB staff, the BCR threshold set by OMB can change from year to year, a project may meet the BCR threshold 1 year but fail to meet it in future years, making it difficult for the Corps to make long-term commitments. For example, one division cited a hydropower plant that had been funded since 2005, but was not included in the President's 2010 budget request because it had a BCR of 1.7 and the BCR threshold for ongoing projects that year was 2.5. Officials at another division estimated that three to four projects in their jurisdiction had been put on hold since the introduction of performance-based budgeting because they could not meet the BCR threshold. Officials at some divisions told us that this uncertainty and the failure of a project to be budgeted has negatively affected the Corps' relationship with local sponsors. Some division officials also told us that this increased uncertainty has made workforce planning more challenging.

Table 5: Summary of Economic Requirements for Construction Projects, by Fiscal Year

	Fiscal year				
	2006	2007	2008	2009	2010
Thresholds for ongoing projects	RBRC ^a must be at least 3 to 1	RBRC must be at least 3 to 1	BCR must be at least 1.5 to 1	BCR must be at least 1.5 to 1	BCR must be at least 2.5 to 1
Thresholds for new start projects	Must rank in the top 20 percent of ongoing, budgeted projects of its type	Must rank in the top 20 percent of ongoing, budgeted projects of its type	Must rank in the top 20 percent of ongoing, budgeted projects of its type	Must rank in the top 20 percent of ongoing, budgeted projects of its type	BCR of at least 3.2 to 1

Source: GAO analysis of U.S. Army Corps of Engineers data.

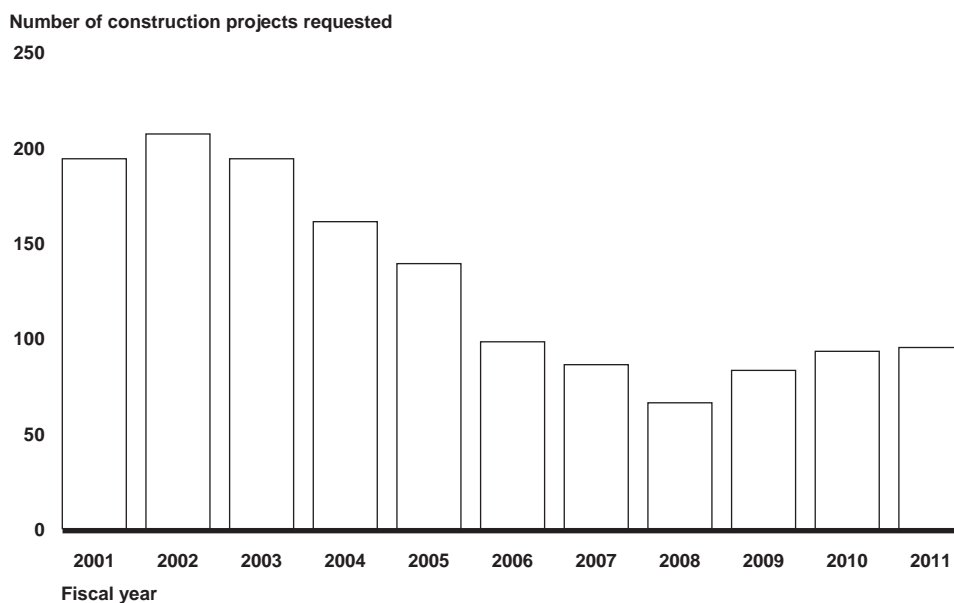
^aRBRC represents the remaining benefits of a project divided by its remaining cost to complete.

Appendix IV: Trends in Budget Requests for the Corps

Numbers of Projects Requested

Over the past decade the number of projects included in the budget request for the U.S. Army Corps of Engineers (Corps) has varied. The number of construction projects has in general decreased, though it has been more stable in recent years, as shown in figure 4.

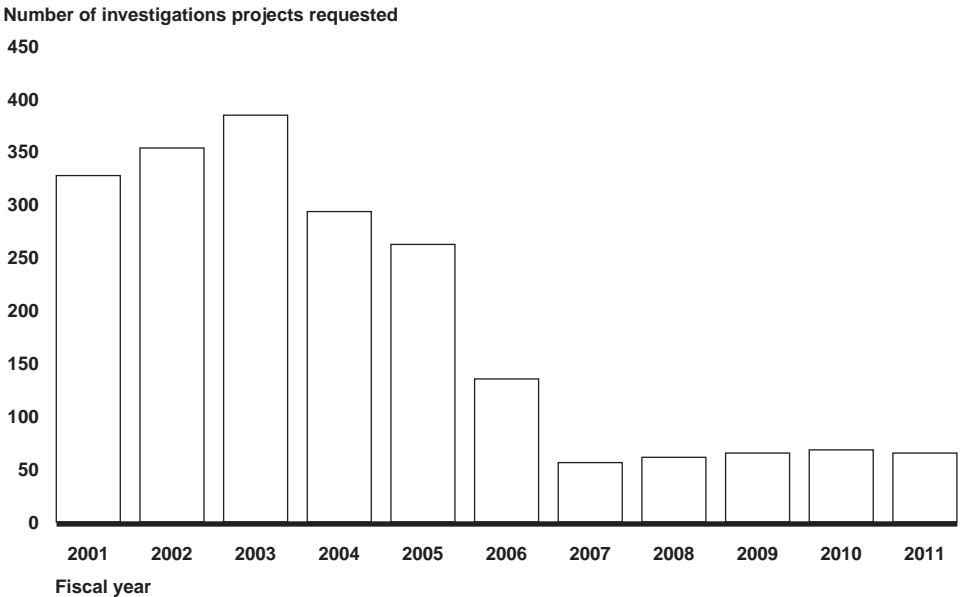
Figure 4: Number of Construction Projects Requested, by Fiscal Year



Source: GAO analysis of U.S. Army Corps of Engineers data.

The number of investigations projects included in the budget request has followed a similar trend to the Construction account, though the degree of the decrease over time has been greater, as shown in figure 5.

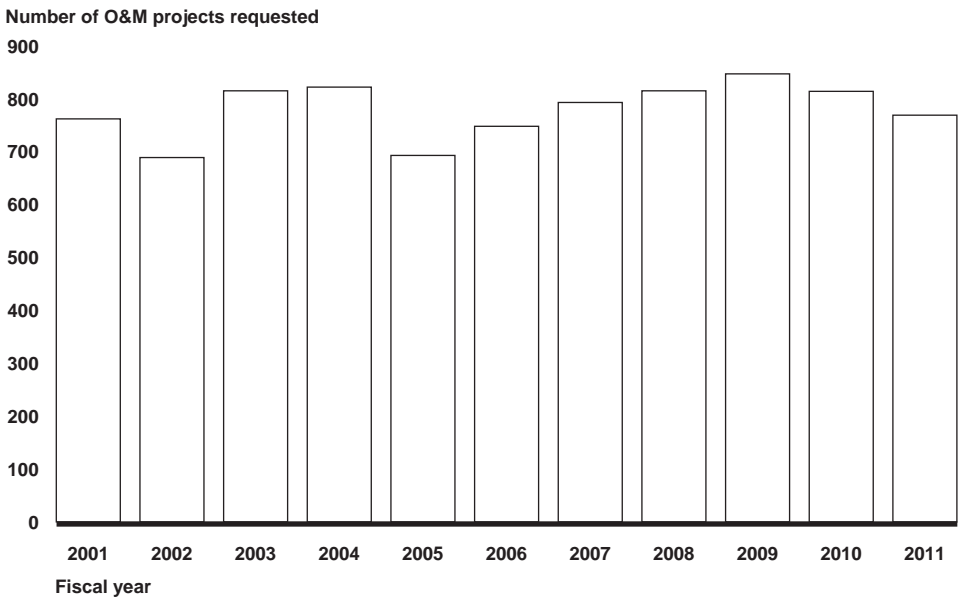
Figure 5: Number of Investigations Projects Requested, by Fiscal Year



Source: GAO analysis of U.S. Army Corps of Engineers data.

Compared to the Construction and Investigations accounts, the Operation and Maintenance (O&M) account has been relatively stable, as shown in figure 6.

Figure 6: Number of O&M Projects Requested, by Fiscal Year



Source: GAO analysis of U.S. Army Corps of Engineers data.

Appendix V: Comments from the Department of Defense



DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
CIVIL WORKS
108 ARMY PENTAGON
WASHINGTON, DC 20310-0108

MAR 30 2010

Ms. Anu K. Mittal
Director, Natural Resources and Environment
U.S. Government Accountability Office
441 G Street, N.W.
Washington, D.C. 20548

Dear Ms. Mittal:

This is the Department of Defense (DoD) response to the GAO Draft Report (GAO-10-453), "ARMY CORPS OF ENGINEERS: Budget Formulation Process Emphasizes Agency-Wide Priorities, but Transparency of Budget Presentation Could be Improved," dated February 23, 2010 (GAO Code 450715).

Thank you for the opportunity to review and comment on the draft report. Responses to the GAO recommendations are enclosed and summarized below.

DoD concurs with recommendations two, three, four and five, but non-concurs with recommendation one, specifically, the GAO recommendation that the Secretary of Defense direct the Chief of Engineers and Commanding General of the U.S. Army Corps of Engineers to establish a documented process to incorporate assessments of on-going project performance, such as information from review boards, into the budget formulation process.

Existing methods of incorporating assessments of project performance into the Army Civil Works budget formulation process are considered to be sufficient, as explained in the enclosed response to recommendation one.

Very truly yours,

A handwritten signature in cursive script, reading "Jo-Ellen Darcy", is positioned above the typed name.

Jo-Ellen Darcy
Assistant Secretary of the Army
(Civil Works)

Enclosure

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GAO DRAFT REPORT DATED FEBRUARY 23, 2010
GAO-10-453 (GAO CODE 450715)

**“ARMY CORPS OF ENGINEERS: BUDGET FORMULATION PROCESS
EMPHASIZES AGENCY-WIDE PRIORITIES, BUT TRANSPARENCY OF
BUDGET PRESENTATION COULD BE IMPROVED”**

**DEPARTMENT OF DEFENSE COMMENTS
TO THE GAO RECOMMENDATIONS**

RECOMMENDATION 1: The GAO recommends that the Secretary of Defense direct the Chief of Engineers and Commanding General of the U.S. Army Corps of Engineers to establish a documented process to incorporate assessments of ongoing project performance, such as information from review boards, into the budget formulation process. (See page 18/GAO Draft Report.)

DoD RESPONSE: Non-concur. Existing processes are considered to be adequate and there would be no added benefit to establishing new ones. On page 12 the report states that "the Corps' budget formulation process focuses on projects' anticipated outcomes, rather than demonstrated performance." While it is correct that criteria such as safety and benefit-to-cost ratio are the primary budget prioritization criteria, it is not correct that the results of periodic assessments and review boards are not incorporated into the budget formulation process.

If an individual project review determines that the project is not consistent with policy, it will not be budgeted at all. Corps Headquarters performance review boards focus at the programmatic level, and the results of the reviews are considered in the formulation of overall priorities for the program. For policy consistent studies and projects under construction, the results of management reviews of schedule slippage and cost changes inform the development of both the budget amount and optimal funding capability for the budget year.

For completed projects in the Operation and Maintenance program, actual performance over time is assessed against authorized project purposes and contributes to the determination of budget priority. For example, in the navigation program, actual commercial use of projects normally establishes the budget priority. The first step for the Operation and Maintenance program, subject to Headquarters review, is for each Division to allocate an amount equal to 75 percent of its recent total allocations. This enables the Districts and Divisions, which are most familiar with projects and conduct the most intensive reviews of project performance and conditions, to allocate funds to project activities to ensure at least basic operation and attention to the most critical maintenance within the region.

Now on p. 18.

See comment 1.

See comment 2.

The final 25 percent is allocated according to nation-wide budget metrics, to raise the level of operation in some cases and to address the next most important maintenance items from a national perspective.

Now on pp. 18-19.

RECOMMENDATION 2: The GAO recommends that the Secretary of Defense direct the Chief of Engineers and Commanding General of the U.S. Army Corps of Engineers to work with OMB and Congress to include in the annual budget presentation for the Corps summary level information on how the budget request reflects decisions made across project categories, business lines, and accounts. (See page 18/GAO Draft Report.)

DoD RESPONSE: Concur. The Army will include, in the annual budget presentation for the Corps' Civil Works program, summary level information on how the budget reflects decisions made across project categories, business lines, and accounts.

Now on pp. 18-19.

RECOMMENDATION 3: The GAO recommends that the Secretary of Defense direct the Chief of Engineers and Commanding General of the U.S. Army Corps of Engineers to work with OMB and Congress to continue to include in the annual budget presentation for the Corps project-level details for the O&M account, including an explanation of how the requested funding for each project will be used. (See page 18/GAO Draft Report.)

DoD RESPONSE: Concur. The Army will continue to include, in the annual budget presentation for the Corps' Civil Works program, project-level details for the O&M account, including an explanation of how funding budgeted for each project will be used.

Now on pp. 18-19.

RECOMMENDATION 4: The GAO recommends that the Secretary of Defense direct the Chief of Engineers and Commanding General of the U.S. Army Corps of Engineers to work with OMB and Congress to provide project-level information on all projects with continuing resource needs, either as part of the budget presentation or as supplementary information. (See page 18/GAO Draft Report.)

DoD RESPONSE: Concur. The Army will provide project level information on all projects funded in the prior year with continuing resource needs, either as part of the Corps' Civil Works budget presentation or as supplemental information.

Now on pp. 18-19.

RECOMMENDATION 5: The GAO recommends that the Secretary of Defense direct the Chief of Engineers and Commanding General of the U.S. Army Corps of Engineers to work with OMB and Congress, as a supplement to the budget presentation, to provide Congress with information on the estimated carryover of unobligated appropriations that remain available for each project. (See page 18/GAO Draft Report.)

DoD RESPONSE: Concur. The Army will provide information on the estimated carryover of unobligated appropriations that remain available for each project. The estimated carryover is taken into consideration in establishing the amount of additional funding to be budgeted for a given project.

GAO Comments

1. While we agree that the Corps' current processes may incorporate project review findings, we continue to believe that establishing a documented process for the use of such information in the Corps' budget formulation would ensure that the Corps routinely makes the best use of all available information. Additionally, having a documented process would improve understanding of how information from the review boards shapes program priorities and affects decision making. Moreover, our report discusses the Corps' use of information on project progress, such as whether schedule and budgetary milestones are being met, through review boards at the district and division levels. However, according to Corps officials, this review board information affects funding decisions on a case-by-case rather than routine basis.
2. We have clarified in our report that we agree the Corps' budget formulation process for the O&M account reflects actual performance. Nonetheless, we continue to believe that the overall emphasis of the Corps' budget process is on anticipated rather than demonstrated performance.

Appendix VI: GAO Contacts and Staff Acknowledgments

GAO Contacts

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Anu K. Mittal, (202) 512-3841 or mittala@gao.gov

Acknowledgments

In addition to the individuals listed above, Carol M. Henn, Assistant Director; Vondalee R. Hunt, Assistant Director; Kathleen Padulchick; and Kelly A. Richburg made significant contributions to this report. Joshua Archambault, Virginia Chanley, Robert L. Gebhart, Chelsa Gurkin, Felicia Lopez, and Vasiliki Theodoropoulos also made key contributions.

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